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US005727298A

United States Patent [19]

Strong

[11] **Patent Number: 5,727,298**

[45] **Date of Patent: Mar. 17, 1998**

[54] **ROLLER SHAFT EXTRACTOR**

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[73] Assignee: **The United States of America as represented by the Secretary of the Navy**, Washington, D.C.

[21] Appl. No.: **716,700**

[22] Filed: **Sep. 19, 1996**

[51] **Int. Cl.**[6] **B23P 19/04**

[52] **U.S. Cl.** **29/259**; 29/263; 29/256

[58] **Field of Search** 29/258, 259, 260, 29/263, 262, 264, 265, 256; 279/51, 48, 46, 50, 52, 56, 57, 41, 42

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[57] **ABSTRACT**

An extractor for use in removing a solid, smooth, press fit shaft from a housing where access to the shaft is restricted. The extractor has a jacket and a collet. The collet fits around the shaft and the collet in turn fits within the jacket. The exterior of the collet end within which the shaft is placed is tapered and this tapered portion of the collet fits within a similarly tapered bore in the jacket. The collet has a threaded end opposite the tapered portion and the threaded end protrudes from the jacket when the tapered portion is fully seated within the tapered bore of the jacket. A nut is placed onto the threaded end and tightened such that the collet is pulled further into the jacket. The movement of the tapered portion within the tapered bore creates a wedging action which forces the collet against the shaft. As the nut is further tightened, the collet grips the shaft tighter. When the collet is sufficiently tightened about the shaft, jacking screws are inserted through a flange on the jacket and brought to bear against the shaft housing. Turning the jacking screws pulls the jacket, collet and attached shaft free of the housing.

5 Claims, 3 Drawing Sheets